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THE OCCURRENCE OF ELEOCHARIS DIANDRA AT BRUNSWICK, MAINE.

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IN the latter part of July and early August, in 1894, the writer was studying the flora of the vicinity of Brunswick, Maine. Nearly ten years before, while he was a student at Bowdoin College the same region had been, as was thought at the time, very thoroughly studied, but the knowledge and experience gained in the intervening time pointed out that many places of interest existed, which not only had not been examined, but had been avoided as barren, by the student.

The richest and most profitable collecting ground found at this time proved to be one of these supposed barren areas, namely the banks of the Androscoggin River, between high and low water marks.

Those familiar with the coastal region of Maine, know that many of the larger rivers are affected by the tides, for long distances from their mouths, the effects being well marked, up as far as the first fall above the mouth of the stream. This effect is of course not peculiar to Maine Rivers, but because of the fiord-like bays into which the rivers empty and the large volumes of fresh water which they discharge, this tidal action in Maine is frequently limited to mere holding back of the outgoing fresh water of the stream, so that twice a day, at high water, the river is broad and deep, and twice a day it becomes shallow and shrinks away from its former limits leaving bare much of its former bed. Since the effect of tidal action is to hold back the fresh water of the stream, we find that in the higher reaches of the tidal action, the water is fresh, and so we have rather broad zones of very wet fresh-water mud- or sand-banks, left along the

shores of the streams. These in their characteristics of soil and drainage are like marshes, but they lack the vegetable debris and stagnation which are found in marshes. They are, in fact, much more like wave-washed beaches in small and shallow lakes in their soil forms, differing from them mainly in the fact that they are less exposed to wind action, and have much more fine material deposited in places where slack water occurs. Small shallow pools are left by the retreat of the tides; mud- and sand-bars are abundant, and those which are exposed longest to the light and air, in summer and autumn, are covered with a rich growth of small plants. These, unless examined carefully, would seem unworthy of attention because of their insignificant size, and also because they are more or less covered by the fine silt brought in by the ever recurring tides. The botanist who is looking for unusual and rare species, will however not leave such areas without careful study, and as the Androscoggin River at Brunswick has all of the features described, many hours were spent in the study of the sand- and mud-bank floras of its shores and many interesting plants were found. Most interesting of all was the finding of the little *Eleocharis diandra* Charles Wright. This plant heretofore has not been reported from east of the Connecticut valley, and yet at Brunswick it was evidently at home in the muddy sand of the high water areas of a small cove in the shore of the river. Near it in a shallow pool, growing with *Juncus filiformis* L. and one or two small species of *Sagittaria*, was *Utricularia minor* L., until then an unnoticed plant in Maine, and two well marked forms of *Isoetes*, probably forms of *I. echinospora* Durien. The *Isoetes* were common even as far out as the borders of the deep channel of the stream. A more complete study of such tracts, and of these same ones at different seasons, would undoubtedly yield a rich harvest of obscure and rare species, for plants of this type of habitat are often very local in distribution but where they do occur they are found in abundance.

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THE ELUSIVE CHARACTER OF *POGONIA PENDULA*. — As supplementary to the article on this somewhat transitory plant in RHODORA, ii, 211, a report from Vermont may be of interest.

Mr. Clifton D. Howe wrote from Burlington on Sept. 12, 1899: "Until three years ago *Pogonia pendula* had not been reported in this